



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/589,197

09/10/2007

Stefan Solyom

43315-232727

6508

26694

7590

09/29/2009

VENABLE LLP

P.O. BOX 34385

WASHINGTON, DC 20043-9998

EXAMINER

QUDDUS, NUSRAT

ART UNIT

PAPER NUMBER

2838

MAIL DATE

DELIVERY MODE

09/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,197	Applicant(s) SOLYOM ET AL.	
	Examiner NUSRAT J. QUDDUS	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/10/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/11/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 4 is objected to because of the following informalities:

Claim 4 does not contain proper definition of parameters YLD and ZLN corresponding to claimed equation thus is indefinite (See P11, claim 4) (Claim 4 is dependent upon claim 2, moreover claim 2 is dependent upon claim 1. Claims 1-2 do not contain definitions or description of the parameters YLD and ZLN (P11, Claim 1-2)).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-3 are rejected under 35 U.S.C 102 (b) as being anticipated over Persson et al. (US 6313614 B1, referred as Persson from here forth).

Regarding **claim 1**, Persson discloses (Fig. 1, Abstract and col. 17 L54-col. 18 L17) a method for voltage stabilization of an electrical power network system (col. 7 L61-col. 8 L9) comprising producing a power network system side (UP) and a consuming power network side (US), having an on-line tap changer (TC) added to a transformer (TR) characterized by, dynamically controlling the transformer ratio n (RAT), dynamically controlling (using TCDD, col. 8 L10-46) the on-line tap changer (TC) by

Art Unit: 2838

changing a voltage reference (using TCDD to change control range of transformer's ratio RAT), and providing a feed forward compensation (using frequency analyzing subunit 211-215 after receiving 20 and 29's signal, which is part of TCDD) by using a filter (Fourier filter) (col. 8 L47-col. 9 L42 and col. 13 L7-49).

Regarding **claim 2**, please see the cited teaching of Persson, in above claim 1.

Furthermore, Persson show that an on-line tap changer (TC) added to the transformer (TR) is dynamically controlled by changing a voltage reference (using TCDD to change control range of the transformer's ratio RAT).

Regarding **claim 3**, please see the cited teaching of Persson, in above claim 2.

Furthermore, Persson show that the feed forward compensation (using frequency analyzing subunit 211-215 after receiving 20 and 29's signal, which is part of TCDD) is provided by a first order filter $H(s) = sT_d/(sT + 1)$, (col. 17 L9-53 (Also see, equation 15 and 17-18 (col. 7 L1-31, col. 13 L8-49 and col. 15 L5-41). Furthermore, 'T or f' and 'T or f sub s' are used to set tuning parameters per sample, as required by the load).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C 103 (a) as being anticipated over Persson et al. (US 6313614 B1).

Regarding **claim 3**, please see the cited teaching of Persson, in above claim 2.

Furthermore, Persson show that the feed forward compensation (using frequency analyzing subunit 211-215 after receiving 20 and 29's signal, which is part of TCDD) is provided by a first order filter $H(s) = sT_d/(sT + 1)$, (col. 17 L9-53 (Also see, equation 15 and 17-18 (col. 7 L1-31, col. 13 L8-49 and col. 15 L5-41). Furthermore, 'T or f' and 'T or f sub s' are used to set tuning parameters per sample, as required by the load).

However, Persson fails to explicitly show the first order filter $H(s) = sT_d/(sT + 1)$, wherein T and T_d are tuning parameters.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use Persson's taught feed forward compensation circuit as specific claimed first order filter in order to find the optimum value using Persson's disclosed tuning parameters, as doing so would improve the overall circuit's operation by improving the efficiency of the power supply, as required by the load, as taught by Persson (col. 7 L1-31, col. 13 L8-49 and col. 15 L5-41), since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum value of a result effective variable involves only routine skill in the art *In re Boesch*, 617 F.2d 272, 205, USPQ 215 (CCPA 1980)

Claim 4 is rejected under 35 U.S.C 103 (a) as being anticipated over Persson et al. (US 6313614 B1), in view of Carver et al. (US 4434388, as taught by Carver from here forth).

Regarding **claim 4**, please see the cited teaching of Persson, in above claim 2.

However, Persson fail to explicitly teach about controller is provided according to the equation $V_{fb} = -\max(0, a(n^2YLD - 1/ZLN))$, wherein n, YLD and ZLN have the meanings given above and a is a tuning parameter that is influencing the region of attraction of the equilibrium point.

However, Carver teaches about a feedback controller (Fig. 3, 31, col. 6 L37-col. 7 L1 and col. 7 L30-40) ... with tuning parameter (to control the variable transformer (i.e. tap changer or by controlling the ratio of the N turns of the transformer) that is influencing the region of attraction of the equilibrium point (as required by the load).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use Carver's taught feedback controller in Persson's taught voltage stabilization and power network system, as doing so would improve in configuring the turn ratio of an autotransformer with smaller and more effective coil configurations using improved control device providing a regulated output (making sure of the equilibrium point) from an unregulated input, thereby saving costs in material and labor, as taught by Carver (col. 7 L10-22).

However, the combined teaching of Persson and Carver does not explicitly teach about the equation $V_{fb} = -\max(0, a(n^2YLD - 1/ZLN))$, wherein n, YLD and ZLN have the meanings given above and a is a tuning parameter.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use specific claimed equation in Carver's taught feedback controller when combined both references of Persson and Carver in order to find it

Art Unit: 2838

optimum precise equilibrium point's value, as doing so would improve the overall circuit's operational power supply efficiency configuring the turn ratio of an autotransformer with smaller and more effective thru the coil configurations using improved control device with the assistant of feedback controller providing a regulated output (making sure of the equilibrium point) from an unregulated input, thereby saving costs in material and labor, as taught by Carver (col. 7 L10-22), since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum value of a result effective variable involves only routine skill in the art *In re Boesch*, 617 F.2d 272, 205, USPQ 215 (CCPA 1980).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

J.C. Lodder (US 3351848) discloses a forward filter for variable transformer configuration for a power system.

Gyugyi (US 4560917), discloses a feed forward circuit for static VAR generator having reduced harmonics.

L.H. Helterline Jr. et al. (US 2753512), discloses a feedback filter for a voltage regulator.

H. J. Hall et al. (US 3507096), discloses a method and apparatus for automatic voltage control of electrostatic precipitators.

Ben-Yaakov et al. (US 2006/0022648 A1), discloses a method and control circuitry for improved-performance switch-mode converters.

Art Unit: 2838

Bjorklund et al. (US 5627735), discloses a method and device for compensation of unbalance a series converter station.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NUSRAT J. QUDDUS whose telephone number is (571)270-7921. The examiner can normally be reached on M-Th from 7:30AM to 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MONICA LEWIS, can be reached on (571)272-1838. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/N. J. Q./
Examiner, Art Unit 2838
09/23/2009

/Gary L. Laxton/
Primary Examiner, Art Unit 2838